GEOGRAPHIC SCHOOL BULLETINS

THE NATIONAL GEOGRAPHIC SOCIETY, WASHINGTON 6, D.C.

VOLUME 37, NUMBER 7, NOVEMBER 17, 1958 . . . *To Know This World, Its Life*

73 ICELAND TOURIST BUREAU

STURDY Icelandic ponies splash across a glacial stream in their subarctic homeland

- Hot-Cold Iceland Looks East and West
- Galapagos Islands, Evolution's Laboratory
- Hark to the Hounds!
- Moon Lore Wanes as Knowledge Waxes
- Argentina's Biggest Park

UMI

The island has a long, rich history, and even richer literature. During the European Dark Ages, she was the guardian of northern mythology—keeping the stories of Thor and Woden alive when they were forgotten on the mainland; preserving the legends that inspired such later artists as Wagner.

Norse seafarers started colonizing Iceland in the ninth century. They came from Scandinavia and existing colonies in Ireland, Scotland, the Orkney and Shetland Islands, and the Hebrides.

Isolated by miles of ocean, they told their tales around smoky fires to pass winter nights. Poetic history (the sagas) and mythology (the Eddas) were treasured.

Since then, the same isolation has kept Iceland's language comparatively unchanged. After a hard voyage or harvest, today's Icelander can settle down and read the ancient works as easily as an Englishman reads his Shakespeare. Today Iceland publishes more books per person than any other country in the world.

Early Icelanders also forged ahead in government. They had trial by jury and a people's parliament 300 years before England's "Mother of Parliaments" convened. Their *Althing*, or general assembly, is the oldest law-making body in the world. Politically, the island was linked to Denmark until it gained full independence in 1944.

Passengers flying from off-lying islands (below) see glaciers and snow fields that cover an eighth of Iceland. But ocean water and subterranean fire give heat. On the southern shore, where the North Atlantic Current moderates winter, January's average temperature is only one degree colder than New York's.

Scalding hot springs bubble up from the earth-fire below. The water is piped to homes and offices in Reykjavik, where more than a third of the 161,000 Icelanders live. It also warms greenhouses full of grapes, tomatoes, even tropical bananas.

Outside of the greenhouses, only one per cent of the island is cultivated, most of it growing hay. Sheep, mainstay of the agriculture, outnumber the islanders three to one. Back-breaking work is required to wrest crops from the stony soil.

HANS MALMBERG

UMI

LAND OF EXTREMES

Hot-Cold Iceland Looks East and West

LUTHER M. HOVAN

THIS YOUNG BLONDE lives in a country where extremes meet.

Her homeland merges East and West, modern and medieval, heat and cold—all on an island the size of Kentucky.

Iceland offers few an easy life. When it comes to earning a living, her friends and relatives may face a simple choice—the poor land or the rich, rough sea.

Ninety per cent of Iceland's money-making exports are pulled from the ocean. Much of her fish is shipped behind the Iron Curtain. In return, Icelanders run their cars on gasoline from the Baku oil fields, eat wheat and rye raised in the Ukraine.

The wealth of fish draws seamen from other countries, including Great Britain, Norway, Sweden, and Russia. Disputes arise. The most recent concerns Iceland's declaration that no foreign ships could fish within 12 miles of her coast.

If commerce turns Icelandic eyes East, democracy and history turn them West. Located on the Arctic Circle halfway between New York and Moscow, Iceland asked for American troops to protect her in World War II. Their presence proved both stimulating and disturbing.

Shops in Reykjavík, the capital and only large city, display American refrigerators and washing machines. Movie theatres and swimming pools mark the change from a pastoral and fishing life toward more modern ways.

American servicemen still guard the airfield at Keflavík, contribute welcome foreign money, but upset proud islanders who want their homeland free of alien soldiers. Though allied with Western powers, Iceland proclaims itself forever neutral.

GÖRAN ALGÅRD

ICELAND'S WEALTH— Women process herring along one of the island's busy waterfronts. Choice fish are salted, spiced, or sugar-cured for export. State-owned factories press the rest of the catch into oil for margarine, soap, and explosives, or grind it into fodder or fertilizer. Iceland's fish harvest amounts in normal years to about 7,000 pounds for each person in the nation; more cod comes from Iceland fisheries than from any other place on the globe.

GEOGRAPHIC SCHOOL BULLETINS, copyright © 1958 by the National Geographic Society, Melville Bell Grosvenor, President. Published weekly during school months by the School Service Division, Ralph Gray, Chief. Assts.: Arthur P. Miller, Jr., Frank Sartwell, Katherine Crapster, Edward Schulz. Entered as second class matter, Wash., D.C. International copyright. All rights reserved. Rates: United States, $2.00 for 30 issues (one school year); Canada, $2.25; elsewhere, $2.50. U. S. only, three years (90 issues) for $5.00. The National Geographic Society is a nonprofit educational and scientific society established for the increase and diffusion of geographic knowledge.

sparsely inhabited, but colonizing attempts and ship visits have brought additional trouble for the wildlife. Dogs, cats, goats, and other domestic animals escaped to become the wildest things on the islands. All prey on native species, or compete with them for food.

Most important to science among the Galapagos animals are the drab finches that put ideas into the head of Charles Darwin. These birds are a living text in evolution.

Scientists believe all the 13 kinds on the islands descended from a single species. Since the Galapagos were formed by volcanic action and were never connected with the mainland, they got their inhabitants by chance.

One species of finch, the theory goes, arrived, perhaps blown out from the mainland by a storm. With no competition, the descendants of these original settlers were able to take over many of the various niches customary to bird life. If there had already been a wide assortment of birds present, the newcomers would have been kept in their ancestral ways by pressure for food.

One finch became, in effect, a warbler. It has a thin beak and hunts insects along tree limbs. Three kinds of seed-eating finches evolved, with small, medium, and large beaks for small, medium, and large seeds.

Another species developed a hooked beak like a parrot's and lives on fruit and tree buds.

Most remarkable is the finch that became a woodpecker. Its bill stretched into the typically long woodpecker chisel, but it has not developed the spearlike tongue that true woodpeckers use to pull insects from holes. To compensate, the finch picks up a cactus spine and pokes it into a hole to dislodge its meal.

It is the only known bird that has learned to use a tool in hunting.

Before Darwin, many thinkers had held that the different species of animals and plants were created distinct.

Darwin's new scheme didn't pop into his head like a light bulb going on. He had visited the Galapagos in 1833, and in 1837 began to keep a notebook on "Transmutation of Species."

"Had been greatly struck," he wrote, "from about the month of previous March on character of South American fossils, and species on Galapagos Archipelago. These facts (especially latter) origin of all my views."

Patiently, he gathered facts and tested theories. Twenty-one years later he published his results. F.S.

UMI

GALAPAGOS—Evolution's Showplace

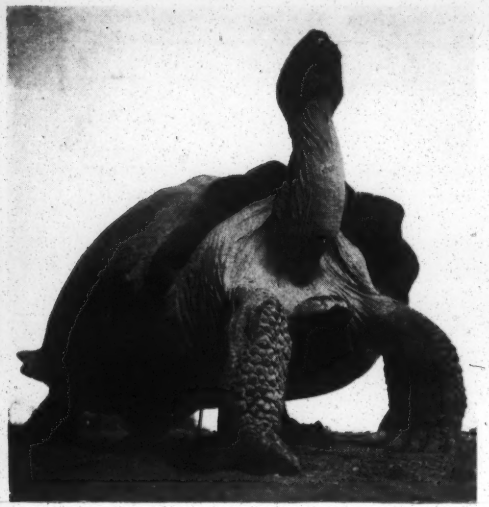
PHOTOGRAPHS BY RALPH BLOOMBERG

A FEW DULL BIRDS on this uninviting landscape changed the course of human thought.

Here Charles Darwin, studying wildlife on a voyage around the world, began reflections that led him to the momentous theory of evolution.

For centuries, men repaid the debt by destroying the wildlife of the Galapagos Islands. Now, an international movement strives to set aside one or more of the 15 major islands as a sanctuary and biological field station.

The islands lie in the Pacific 600 miles west of Ecuador, to which they belong.



Scientists from that country, the United States, and Europe have joined in the sanctuary movement. Expeditions have examined possible sites.

Galápago is Spanish for tortoise. The huge beasts (below) gave the islands their name and have made it famous in the world's zoos.

Visitors found they could ride the shellbacks like horses. Some grew so large a dozen men could barely carry them.

The tortoises were the first victims of exploitation. Pirates and whalers found them a ready source of meat. Since they never had a natural enemy, the tortoises were placid and easily caught. One might yield 200 pounds of "Galapagos mutton."

Over the years, millions were killed—one scientist believes no less than 10 million. They are today close to extinction.

Another native, the marine iguana (below) is a four-foot vegetarian dragon with a fearsome appearance and the disposition of a weak earthworm.

As the North Atlantic Current warms Iceland, the Peru Current cools the Galapagos with Antarctic water, even though they straddle the Equator.

This makes it possible for cold-loving animals, such as seals and penguins, to live there.

With little fresh water, the islands are

DAVID W. CORSON FROM A. DEVANEY, N.Y.

LIKE THE FRENCH aristocrat that he is, the gallant Basset wears his coat with a casual bagginess. His job is to trail and drive out game rather than give chase; only his cousin, the Bloodhound, excels in scenting skill. Long favored by king and gentry for hunting in Europe's forests, this sturdy little hound is now an American favorite.

WALTER A. WEBER, NATIONAL GEOGRAPHIC STAFF ARTIST

THE BLOOD of half-wild hunting dogs, Great Danes, Bloodhounds, and other breeds courses through the veins of the courageous Rhodesian Ridgeback. Trained for the hunt, he besieges the mighty lion until his masters come in for the kill. Though he earned his fame through sport, he was the well-loved guardian and companion of Europeans who settled on the lonely African veld. K.C.

KEYSTONE PRESS AGENCY, LTD.

THE GRACEFUL SALUKI, above, is revered above all animals in the Arab world. The swiftest and probably the oldest of purebreds, this hound may gallop at more than 40 miles an hour. Egyptians 5,000 year ago mummified these dogs as well as their royal masters.

While Salukis run alone, the English Foxhound, right, spends his life as part of a skilled team, the foxhound pack. Caroling merrily across the misty English countryside, this sturdy runner may lead fox hunters 75 miles over rough country. These hounds and their rigorous sport have accompanied Englishmen around the world.

Hark to the Hounds!

SWIFT LEGS, keen noses, and an abounding desire to serve have earned the hounds a special place in man's world. Araby's Saluki (left) can run the fleet gazelle into the ground. On England's meadows (below) the lead dog smells out Mr. Fox, and the bugle music of a pack in full cry cleaves the autumn air. The same scene is familiar to thousands in the United States.

Across America these and 17 other breeds of hounds tremble to be off at the master's command. All are portrayed, with dozens of dogs of other classifications, in the new *National Geographic Book of Dogs*.

PAINTING BY THOMAS BLINKS, COURTESY OF MRS. PARKER POE

—have been said by Westerners to resemble a human face or figure—that "Man in the Moon." Other peoples see them differently. The Chinese make out a monkey pounding rice, Indians a rabbit. Samoans imagine a woman weaving.

Puritan mothers kept their children quiet by pointing to a moon goblin with huge ears and a wart on his nose. The monster could be seen holding a pair of scissors, ready to snip off the tongue of anyone who sassed his parents.

Farmers, living close to nature, have long depended on the moon for planting and harvesting instructions. Potatoes should be planted in the dark of the moon, preferably on Good Friday. (Some Christian holidays are still determined by the moon. The moon sets the date for Easter, and several "moveable" days are determined from that.)

To understand how the moon seems to change from night to night, a source of reverent awe to your ancestors, see the diagram below.

You are looking down on the earth and moon. Sunlight (white lines) leaves half the moon in shadow, as it does half the earth. You see the moon in nine positions. At each position, or phase, the circling satellite presents a different ratio of light and shadow to the earth.

What astronomers term the new moon (top) is actually invisible to earth because its back is directly to the sun. About three days later, the poet's new moon (slightly to the left) shows an ultrathin crescent of light. More and more of the earth-side is lighted as the moon circles, until at the opposite end of the orbit the moon is full (bottom). Swinging back, it seems to grow smaller until it disappears again at new moon.

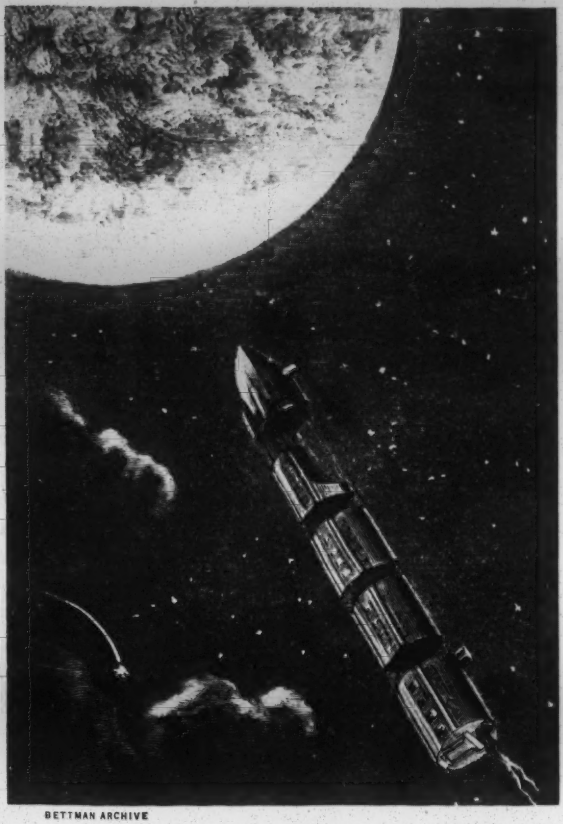
The diagram also shows why earthlings have never been able to see the other side of the moon. The black dot on the moon's edge symbolizes Sinus Medii, a central point on the face. As the moon revolves around the earth, it also spins on its axis, keeping the same side toward the earth at all times. F. S.

© NGS

PHOTOGRAPH BELOW shows the moon as it appears when its swing around earth is one quarter finished. It corresponds to the farthest left position on the chart.

LICK OBSERVATORY

UMI



BETTMAN ARCHIVE

MOON TRAVEL, 100 YEARS AGO—Jules Verne, father of modern science fiction, imagined lunar exploration in the 1860's in two novels, *From the Earth to the Moon,* and *Round the Moon.* His three heroes, encased in a 20,000-pound aluminum projectile, were fired from a massive cannon near Tampa, Florida. Oddly enough, that is not too far from Cape Canaveral, where today's moon probes are launched. This space-train illustration from the book shows engine, tender, and coaches for first and second class passengers. Verne's projectile circled the moon, as current rockets attempt to do, and returned safely to earth, landing in the Pacific off Baja California.

Science Waxes, Moon Lore Wanes

THUNDEROUS ROCKETS reaching toward the moon promise to put an end to untold centuries of speculation about our nearest celestial neighbor.

In the time of the earliest men, the world's oldest fraternity—the Sky Watchers—was founded. The big, white moon, ever changing, ever the same, fascinated them. Each group attributed to the moon whatever characteristics and powers seemed most likely, most pleasant, or most fearful, according to its own knowledge and attitudes.

Prehistoric men worshipped the moon as a god—or goddess. Our calendars today are built on the moon's phases—"month" comes from "moon." Elaborate tales and legends were invented to explain how it got up there in the first place and why it grew bigger and smaller.

Even the idea of going to the moon is not new. Ancient myths describe how persons or animals jumped up, either to become the moon or just to visit, like the well-known cow that jumped over it. (Orbiting instrument packages attempt the same feat now.) As early as A.D. 160, a Greek satirist described an imaginary trip to the moon. Science fiction writers ever since have followed his lead.

Not all the thought devoted to the moon was superstitious. Ancient observers noted the effect of the moon on tides. Their calculations helped lead the study of the heavens from frightened astrology to scientific astronomy.

But most of the attention given the "orbed maiden with white fire laden" came from ordinary folk. People in every time and place have convinced themselves that the moon pulls more than the tide—why not weather, plants, animals, man himself and his daily doings?

The markings on the moon—actually plains of dust or lava among pocked craters

underrate its attractions. Certainly no area of Switzerland—nor, I think, of the world—has more unspoiled natural beauty." ("Argentina: Young Giant of the Far South," *National Geographic Magazine*, March, 1958.)

Lake Nahuel Huapí (an Araucanian Indian name meaning Tiger Island) curves toward the Chilean border and stretches fjordlike arms among the jagged cliffs of the snowy Andes.

During summer, ferns, lupine, and fuchsias splash color along shores, roads, and woodland trails; patches of primrose, lilies, and daisies dot the fields. Trout and salmon averaging five pounds lure sportsmen from all continents. Recently an Argentine angler hooked a 35-pound, 4-ounce brown trout.

As fast as fish are caught the National Department of Fisheries stocks the lakes with more. Town markets in the district sell only salt-water fish flown in from the Atlantic to protect lake fishing from expanding from a sport to an industry.

High above Lake Nahuel Huapí challenging slopes attract climbers. Golfers gather at the Llao Llao course.

Resting on the rolling lawn of Llao Llao and looking over the calm blue waters of the 40-mile lake, it is hard to believe this Elysium is the result of an international argument. The park director told Franc Shor, "It took a double stroke of luck to turn this area into a park. In fact, it very nearly didn't become Argentine at all."

At the turn of the century, he explained, Chile and Argentina disputed ownership of the area. They agreed to arbitration by Edward VII of Great Britain, and Argentina was awarded the territory that now includes the park. The Argentine negotiator was Francisco P. Moreno, Director of the Museum of Natural Sciences at La Plata. For his services the government awarded him 25,000 acres of the land in question. He deeded it back to the Argentine government on condition that it be made into a park. That was in 1903. With later additions the park has grown to 1,868,000 acres, slightly smaller than Yellowstone National Park. Park attendance has soared from about 12,000 in 1944 to some 100,000 last year.

Francisco Moreno, father of the park, is buried on a small, flowered island in Lake Traful, to the north of Lake Nahuel Huapí. Each time the excursion yacht *Modesta Victoria* steams by it salutes him with a long whistle blast while the crew stands at attention. E.S.

INTERNATIONAL TELEPHONE AND TELEGRAPH COMPANY

CHRIST OF THE ANDES stands as a pledge to peace between Chile and Argentina. It was erected after the pact of 1902 ended the border dispute between the two countries. An inscription reads: "Sooner shall these mountains crumble into dust than Argentines and Chileans break the peace which at the feet of Christ the Redeemer they have sworn to maintain." In the background loom towering Andean peaks.

JEAN AND FRANC SHOR, NATIONAL GEOGRAPHIC STAFF

PLAYGROUND IN PATAGONIA

WHILE NORTH AMERICANS turn up their collars to ward off winter winds, Argentines pack for summer vacations. By this time next month crowds along Calle Oriental, the Broadway of Buenos Aires, will be heading out of the city. Some hurry to the luxurious ocean resort of Mar del Plata on the Atlantic seaboard. Others seek the blossoming western hills of western Córdoba, or the beaches across the Río de la Plata in Uruguay.

But when the summer sun blazes down on the City of Good Airs many Porteños (as the 3,700,000 dwellers of this port are called) hope to flee across the pampas and over the hills to the lake district in western Patagonia (above).

From Buenos Aires new diesel engines pulling air-conditioned coaches roll across the Texaslike pampas, past vast estancias where beef cattle range and gauchos capture ostrichlike rheas (right).

Stretching before them along the foot of the Andes lies a string of glacial lakes. In a setting of mountain peaks, cascades, glaciers, primeval forests, and scarred rock formations the lakes accent seven national parks modeled after the United States National Park system. Like scatter rugs on the valley floors, they add bright spots of color to a 1,000-mile-long corridor, ending in bleak, galeswept southern oceans.

ERIC PAVEL

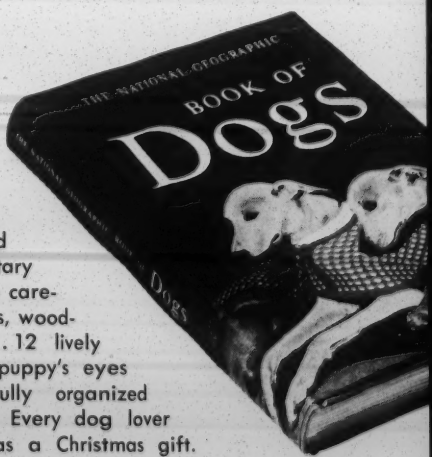
But to the Porteño, "lake district" usually means Nahuel Huapí National Park, and he likes to refer to it as "the Switzerland of Argentina." When Franc Shor, Senior Assistant Editor of the *National Geographic Magazine*, visited the lake district he wrote: "If anything, they

NAHUEL HUAPI'S SLOPES LURE ARGENTINE SKIERS

PAN AMERICAN UNION

FROM JULY through September winter sports enthusiasts throng the ski fields near San Carlos de Bariloche. Popular Cerro Catedral attracts international competition. Ski lifts, lodges, and shelters *(refugios)* provide comfort.

HOW TO CHOOSE YOUR DOG ▶
HOW TO CARE FOR HIM ▶
HIS ORIGIN AND HISTORY ▶



THE WORLD OF DOGS is a wondrous place. Here, in 432 pages, are its citizens . . . the aristocrats and workers . . . the slim, keen sportsmen and the sedentary city dwellers . . . the dignified professionals and the care-free playboys. Here are 342 magnificent paintings, woodcuts and photographs, the majority in color . . . 12 lively chapters, bright and warm as the glow in a puppy's eyes . . . 127 illustrated breed biographies, beautifully organized to form an encyclopedia of the canine world. Every dog lover will be delighted to have *The Book of Dogs* as a Christmas gift.

NATIONAL GEOGRAPHIC SOCIETY
department 93 Washington 6, D.C.

NAME (PLEASE PRINT)

STREET

CITY, ZONE, STATE

432 PAGES
7" x 10¼"
POSTPAID

$9.85

Enclosed is remittance of
$_____ for _____
copies of THE BOOK OF DOGS